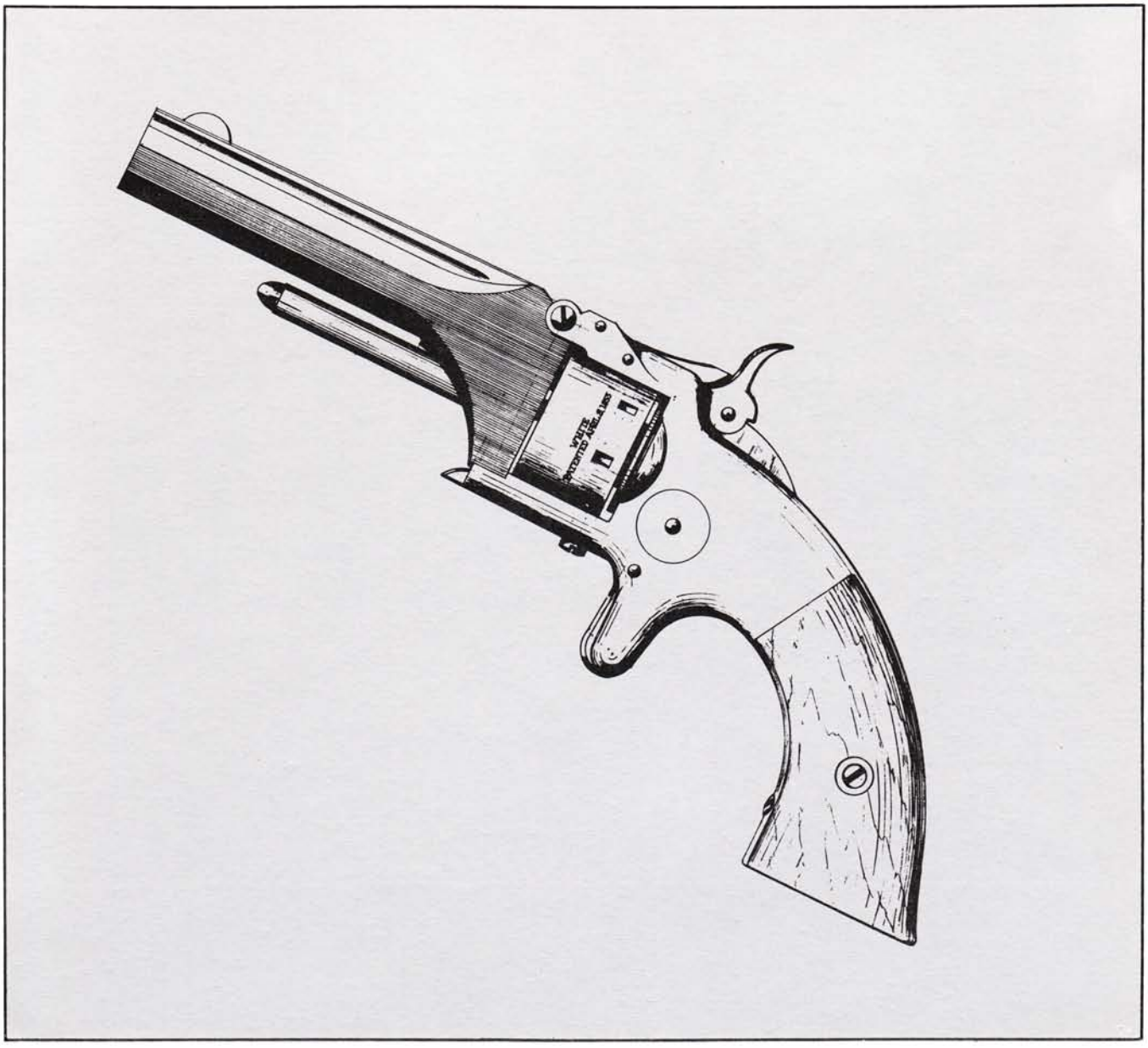
SMALL ARMS PROFILE 17

40p/$2·00

SMITH & WESSON TIP-UP REVOLVERS



Glossary of terms

Automatic The common name for a self-loading or semi-automatic pistol. This has been used throughout the Profile Series to denote the above.

Backstrap (18) The part of the frame which forms the rear of the grip.

Barrel (2) The tube down which the bullet is guided.

Bent (13) Notch in hammer.

Breech Rear portion of barrel.

Chamber Part of the gun that receives the charge or cartridge.

Disconnector (11) A device to prevent multiple shots being fired on a single pull of the trigger.

Ejector A part designed to assist the removal of the empty case.

Extractor (20) Same as ejector but more often applied to automatic weapons.

Firing Pin (19) The pin that detonates the cartridge priming.

Follower (16) Part of the magazine that guides the cartridges upwards.

Frame (6) See Receiver.

Hammer (3) A device to detonate the priming of the cartridge or actuate the firing pin.

Magazine (10) A container for cartridges used to feed a gun automatically.

Magazine Catch (8) The catch that holds the magazine in place in the gun.

Mainspring (12) The spring that actuates the hammer.

Muzzle The open end of the barrel.

Receiver (6) The main housing for the major components.

Recoil Spring (5) The spring that controls the movement of the slide or other moving components upon firing.

Recoil Spring Guide (4) A guide that prevents the recoil spring from becoming damaged.

Safety Catch (9) A device to prevent the gun being fired.

Sear (14) A lever that transmits movement from the trigger to the hammer.

Slide (1) The sliding breech block often containing the extractor and the firing pin, used to close the rear of the barrel.

Stocks (Grips) (7) Wooden or plastic pieces used as a handle.

Trigger (15) A lever which is used to release the hammer mechanism.

Trigger Bar (17) A lever connecting the trigger to the seer.

Model 1-third issue. This weapon has a short barrel and was engraved by L. D. Nimschke (*Author*)

Smith & Wesson Tip-up revolvers

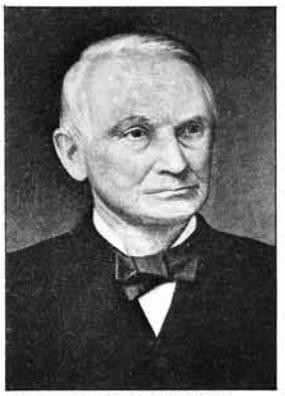
by Roy G. Jinks

The Beginning

The history of Smith & Wesson, as any of the giants in the firearms world, cannot be told in a few pages. To completely tell the S&W story would require several large volumes. It is the Author's intention to provide an insight into early Smith & Wesson history for, to understand this firm, it is necessary to examine closely its development from its early years. Since this study is limited in length, only the basic models will be covered with just brief mention of the important variations which add interest to the collecting of S&W firearms.

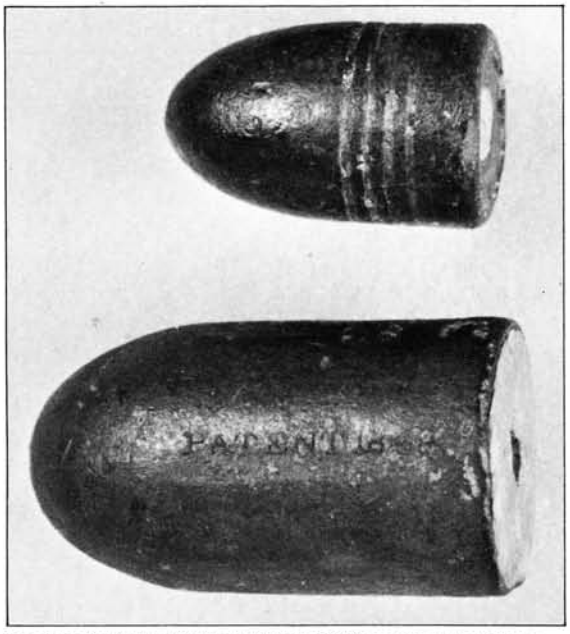
The firm of Smith & Wesson began in 1852 when Horace Smith and Daniel Baird Wesson joined into a partnership for the purpose of manufacturing a new style pistol. The partners were not new to the firearms field, for each in his own way was a well-known gunsmith and manufacturer, and they had often worked together in companies manufacturing arms. Like all designers, and inventors of firearms in this period, they desired to design and manufacture a firearm which was capable of firing rapidly without the necessity of reloading and repriming with loose powder and separate primers for each shot. This would mean that the gun would have to fire a type of fixed ammunition which contained both the primer and propellant. A cartridge of this basic type had been patented by Walter Hunt on 10 August 1848, but all attempts to manufacture a gun to successfully fire the cartridge had proven fruitless. The Hunt Rocket Bullet as it was called was a conical lead ball with a hollow base which was filled with black powder as a propellant. The base of the bullet held a cork insert which contained a small flash hole which allowed the powder to be ignited by a percussion cap.

Mr Hunt had secured a patent on a magazine rifle to

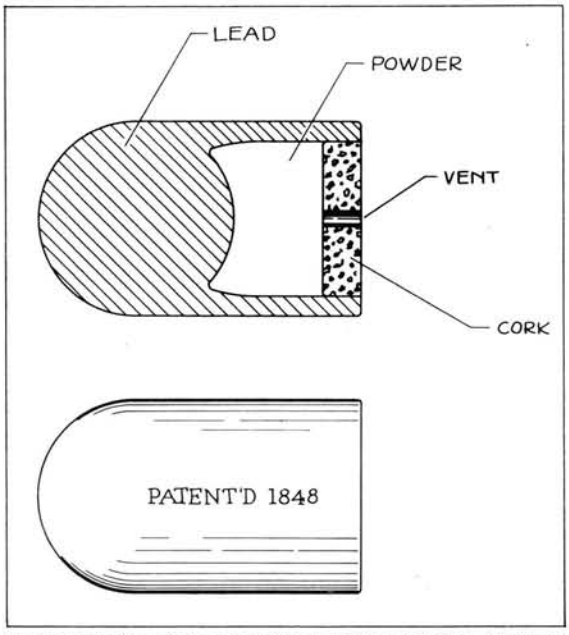


Horace Smith 1808-1893 (*Author*)

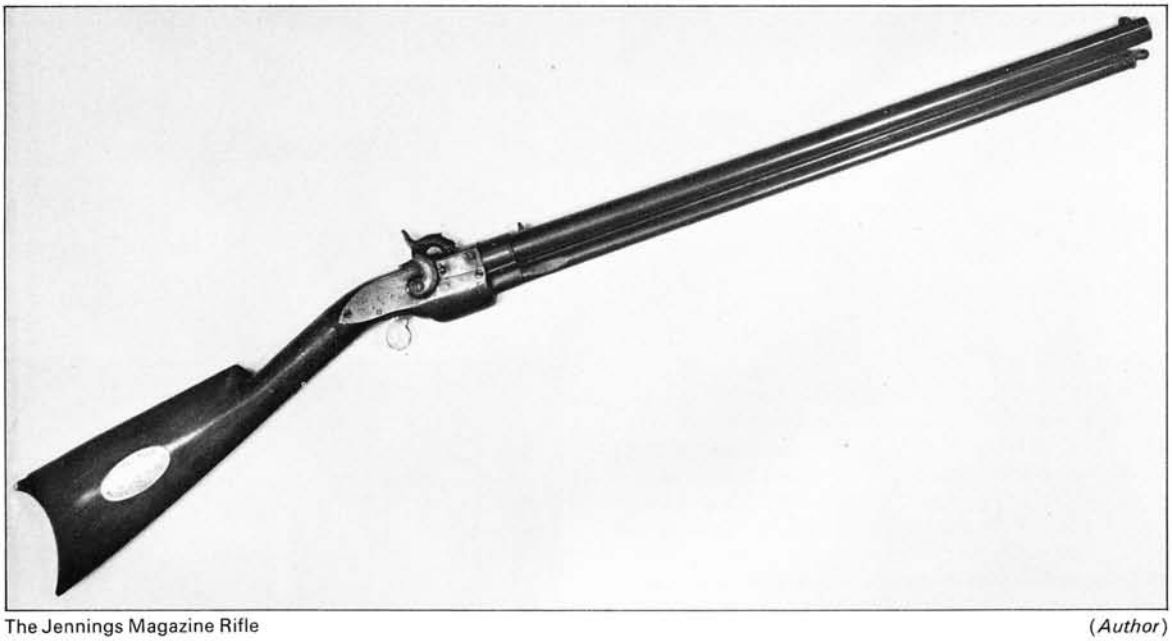
D. B. Wesson 1825-1906 (*Author*)



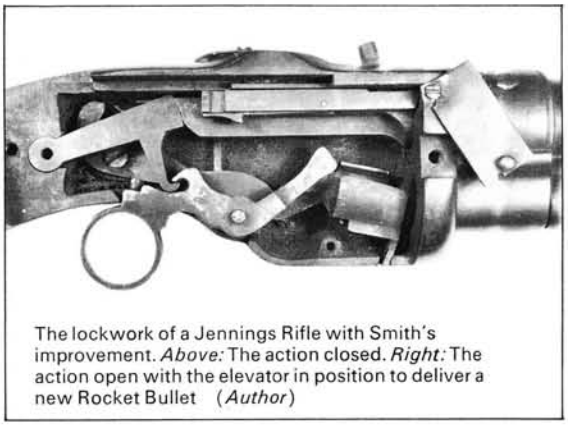
Top: The improved Smith & Wesson Self-contained cartridge
Bottom: The Hunt Patented Rocket Bullet (*Author*)



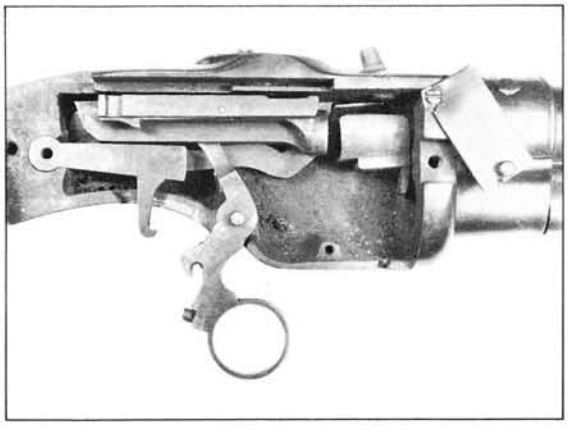
The construction of the Hunt Patented Rocket Bullet (*Author*)

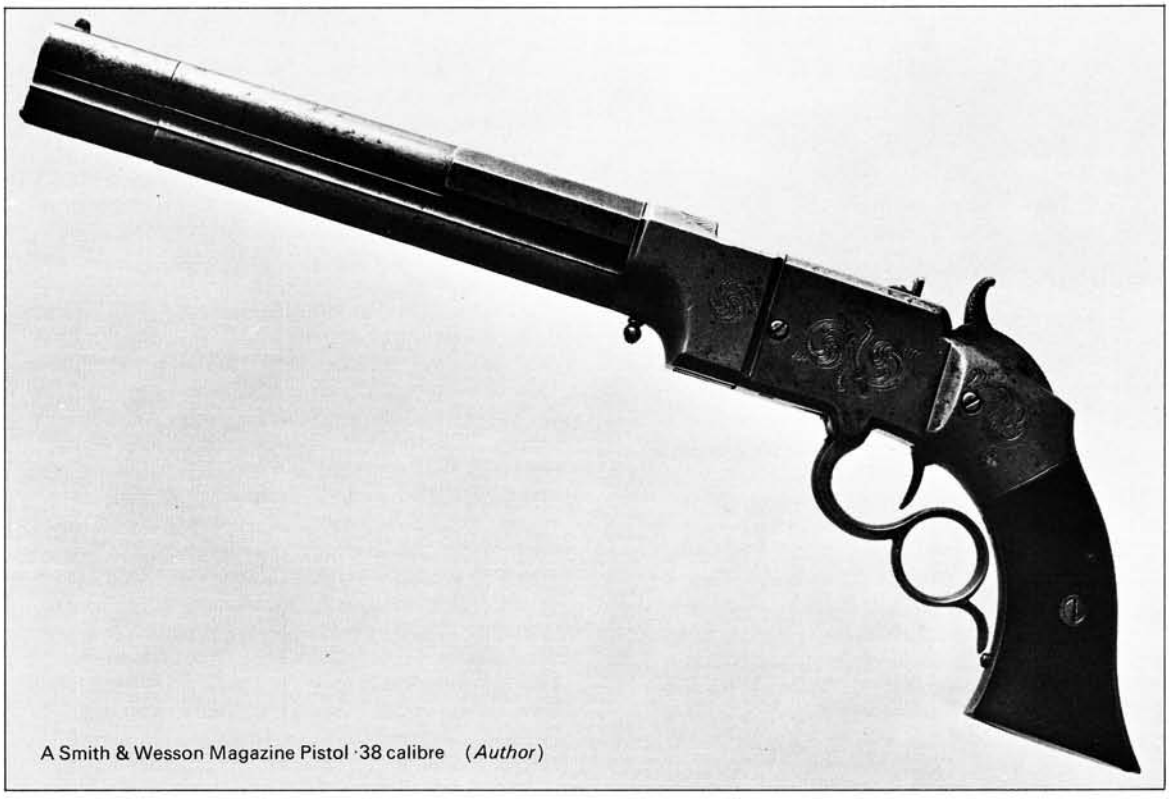


The Jennings Magazine Rifle (*Author*)

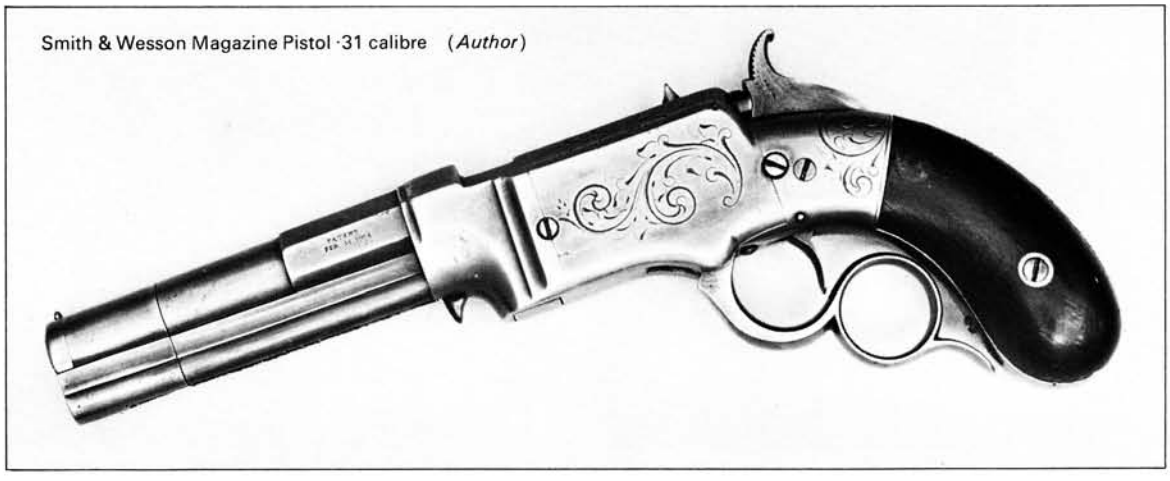


The lockwork of a Jennings Rifle with Smith's improvement. *Above:* The action closed. *Right:* The action open with the elevator in position to deliver a new Rocket Bullet (*Author*)





A Smith & Wesson Magazine Pistol ·38 calibre (*Author*)

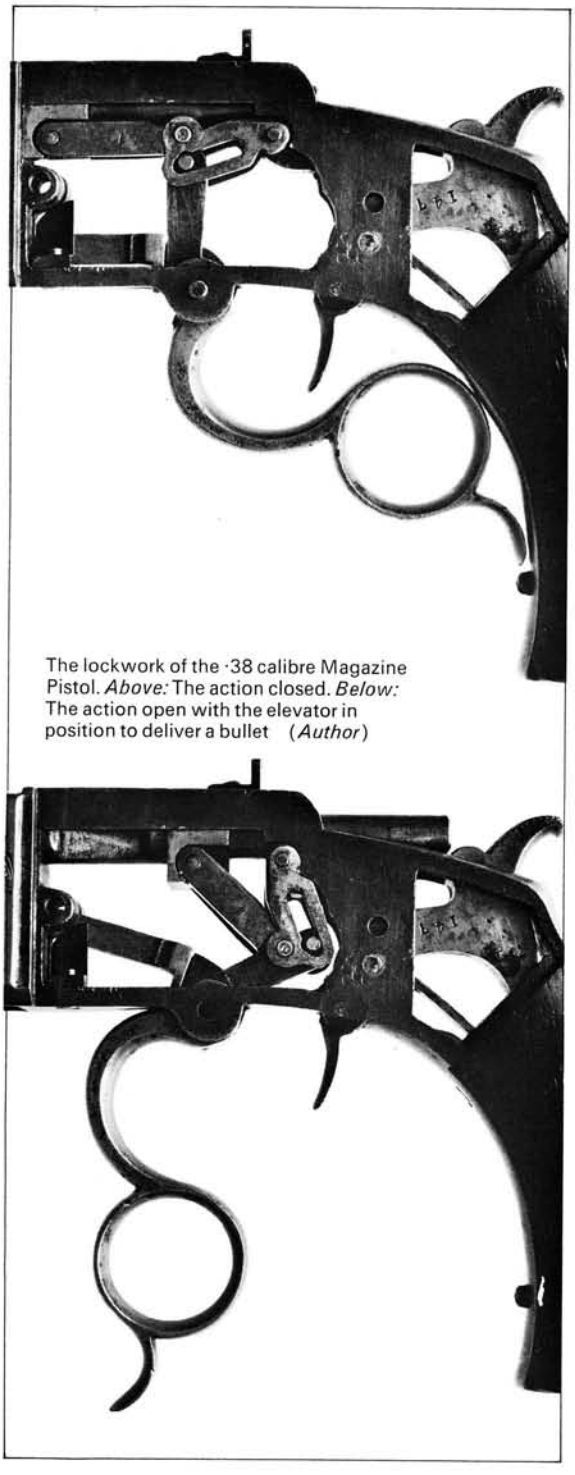


Smith & Wesson Magazine Pistol ·31 calibre (*Author*)

fire his cartridge on 21 August 1849 ; however, attempts to manufacture the rifle were not successful. Later Walter Hunt received additional financial backing and the aid of Lewis Jennings. Lewis Jennings improved the design of the Hunt repeating rifle and secured the US patent of 25 December 1849. In 1850, a contract was signed for the production of 5000 rifles to be manufactured by the Robbins and Lawrence Company, Windsor. This rifle was marketed as the 'Jennings Repeating Rifle'. It was during their employment with the Robbins and Lawrence Company that H. Smith and D. B. Wesson became interested in the new cartridge and the idea of a repeating rifle. Horace Smith further improved on the Jennings patent and obtained US Patent Number 8317 dated 26 August 1851 for this improvement. Upon completion of the Jennings contract by Robbins & Lawrence, Smith and Wesson were successful in obtaining the rights to all of the early patents of both Hunt and Jennings. This prepared the ground work for the development of Smith & Wesson's first handgun.

Smith & Wesson Magazine Pistol

Together Horace Smith and D. B. Wesson redesigned the Smith patent of 26 August 1851 and developed a new lever action pistol to fire the self-contained cartridge. The new Smith & Wesson Self-Contained Volcanic Bullet differed from the Hunt Bullet in that it contained both propellant and primer. Furthermore they had added grease grooves to the bullet which prevented leading and gave superior accuracy. The magazine was a tube underneath and parallel to the barrel. The manufacture of this pistol commenced in



The lockwork of the ·38 calibre Magazine Pistol. *Above:* The action closed. *Below:* The action open with the elevator in position to deliver a bullet (*Author*)

1852 in Norwich, Connecticut under the name of Smith & Wesson. This pistol was manufactured in two basic styles and calibres. The ·31 in calibre pocket model had a bag style grip while the larger ·38in calibre belt model had a flared square butt. These handguns were of cast steel construction and stamped with the Smith & Wesson name and only those of later manufacture carried the stamping of the patent date of 14 February 1854. Today these models are classified as the Smith & Wesson Magazine pistols to distinguish them from the other type of firearms manufactured under the Smith & Wesson patent. This new lever action pistol and its cartridge did not prove successful. The ammunition had many serious drawbacks, such as poor ballistic characteristics, failures to ignite and then difficulty in extracting the unspent round, together with lack of proper obturation of gases at the breech which caused, most distressing of all, the occasional discharge of all the cartridges in the magazine tube.

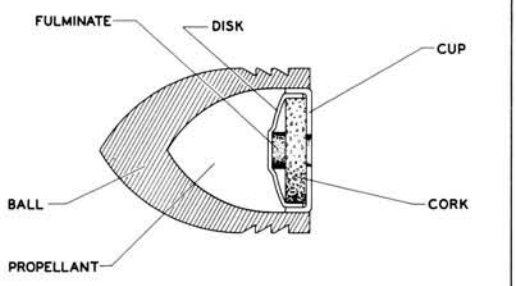
The two partners continued their testing of different types of cartridges and on 8 August 1854, they patented a new self-contained metallic cartridge. This cartridge consisted of a rimmed copper cartridge case with the bullet crimped in the case mouth. The priming compound was spun into the rim of the case and held in position by a fibre washer. The Smith & Wesson Company found itself in serious financial difficulty and the partners chose not to adapt the lever action pistol to fire the new metallic cartridge. Instead, they chose to accept new financial backing to put new life into the company. One of the backers was a shirt manufacturer from New Haven, Connecticut, Mr Oliver Winchester. The company was moved to a new plant location in New Haven and the name changed to Volcanic Repeating Arms Company. This transition took place some time in late 1854. Horace Smith and D. B. Wesson, still major stockholders, retained positions with the new company as plant superintendents. This inspired them to continue to experiment with the new cartridge and design a firearm in which this cartridge could be utilised successfully. By 1856, the Volcanic Arms Company was in financial difficulty and Smith and Wesson, with a new idea, decided to sell their interest in the company to Mr Winchester but retain the rights to the lever action patent, allowing the Volcanic Repeating Arms Company to continue production under the patent provided it did not directly compete with any firearm to be marketed by Smith and Wesson.

It is now old history as to the growth line of the original Smith & Wesson Company, but since it closed an era for the partners, let's briefly review the development of their original firm. In the course of 14 years, the company, which originally started as Smith & Wesson, underwent a series of changes and financial manipulations with the company finally emerging as Winchester Repeating Arms Company. (For further information on Winchester see Profile 11.)

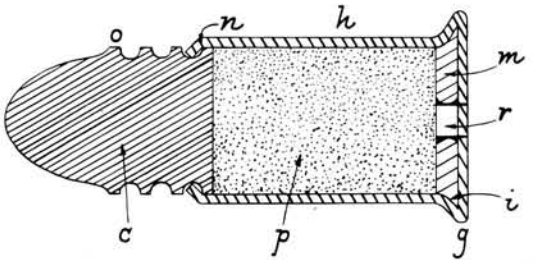
The New Smith & Wesson Co 1856

The partners during their last years with the Volcanic Repeating Arms Company had developed a small ·22in calibre revolver which could fire their newly designed metallic cartridge. There had been a major obstacle to the manufacture of a revolver until this time for Colt's Patent Firearms Company held a basic patent which covered the manufacture of any arm using the revolving cylinder. This patent was to expire in 1857.

Smith & Wesson moved to Springfield, Massachusetts, where they could hire skilled gunsmiths who had congregated there as a result



A diagram of the Smith & Wesson Volcanic Cartridge (*Author*)



A diagram of the new Smith & Wesson Rimfire Metallic Cartridge.

O Grease grooves
N Crimp
H Copper case
R Flash hole
I Location of priming compound
G Rim
P Powder
C Lead bullet
M Fibre wad used to hold priming compound in position
(*Author*)

of the Springfield Arsenal. Plans were begun to prepare for the manufacture and patenting of this new revolver while waiting for the Colt patent to expire.

While investigating the patentability of their revolver, the partners were shocked to learn that an important feature of their revolver had already been patented on 3 April 1855 by a Colt employee, Mr Rollin White. The White patent, which was for a magazine loading and priming device for a percussion revolver, also covered a very important feature which was necessary for the manufacture of the Smith & Wesson Revolver. This feature was a cylinder, the chambers of which were bored end to end, a requirement for the use of a metallic cartridge in any handgun. The partners quickly contacted Mr White and learned that he was willing to exclusively license them to manufacture under his patent.

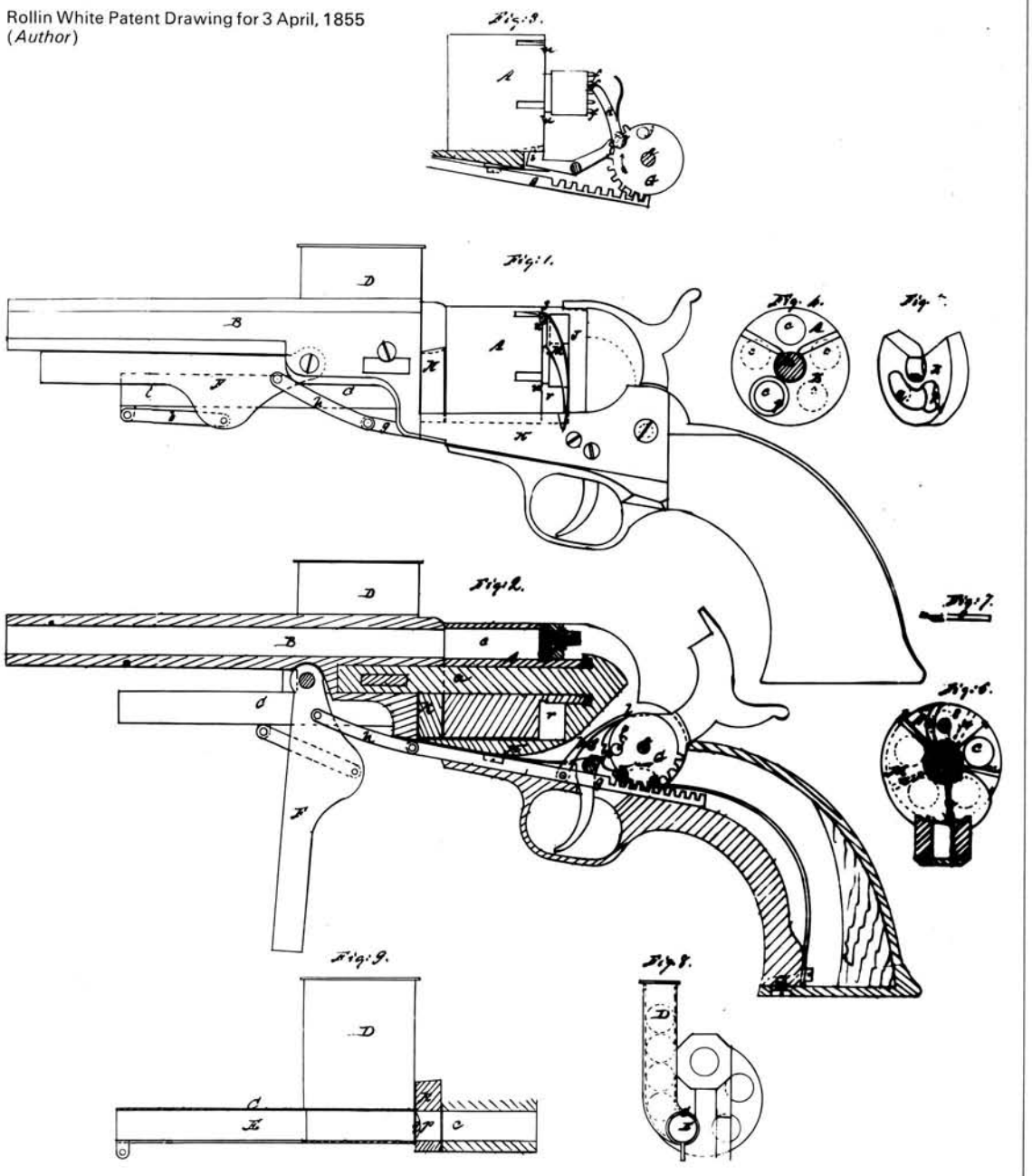
The terms of the agreement provided that Smith & Wesson would pay Rollin White or his estate a royalty of $0·25 for the production of each revolver with a bored through cylinder. Mr White, however, would be responsible to protect his patent from infringers, bringing litigation against such people, as well as bearing the burden of all costs of such litigation and fees for patent renewal. This agreement gave Smith & Wesson the exclusive right to manufacture a cartridge revolver from 1856 to 1872. With this patent agreement signed, the partners started the slow business of manufacturing this new revolver which they called the Model 1 Seven Shot.

Model 1 First Issue

The Model 1, or the Model 1 First Issue as it is called today by collectors, was first produced in 1857. It is a small ·22in calibre pistol having an oval brass frame which has a small round side plate located on the left side of the frame. The hammer for this model

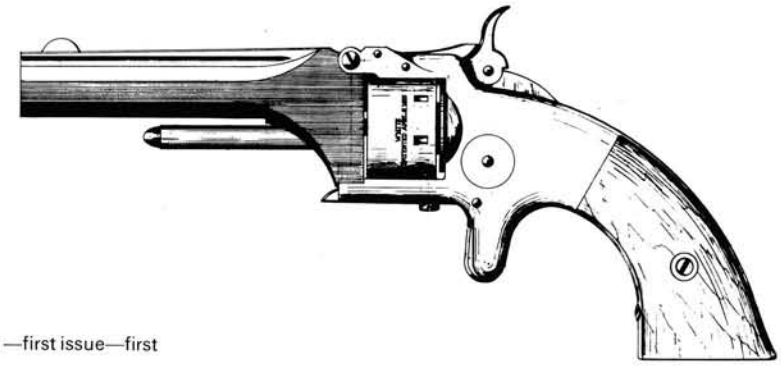
Rollin White bored-through cylinder patent model of 3 April, 1855 *(Author)*

Rollin White Patent Drawing for 3 April, 1855
(*Author*)

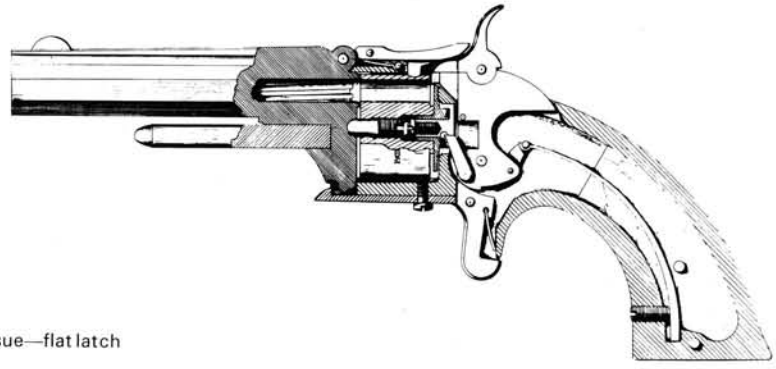


was produced in two sections with the thumb piece being hinged so that it would operate the cylinder stop when the hammer was drawn to the cocked position. In general, the gun was finished with a silver plated frame and blued barrel and cylinder. In later production it was available fully plated. This revolver is of the tip-up style with the barrel hinged at the top just forward of the cylinder. A spring latch secures the bottom of the barrel to the frame. To load the revolver, the barrel is unlatched and rotated up towards the hammer. The cylinder is then removed for loading. A small rod is secured under the barrel to allow for cartridge extraction. The serial numbers for this model started at 1 and continued up to approximately 11046 with the estimated total production being 11,000. These revolvers were produced over a $3\frac{1}{2}$ year period with the largest percentage being produced in 1858 and 1859.

Like any new product, the Model 1 First Issue was being continuously changed and improved. Collectors recognise six variations which are simply called Model 1 First Issue First Type through Model 1 First Issue Sixth Type. To completely cover these variations would require an in depth study and it is not warranted here. In general, however, there are two types which can be easily recognised. These are the early flat spring latch of



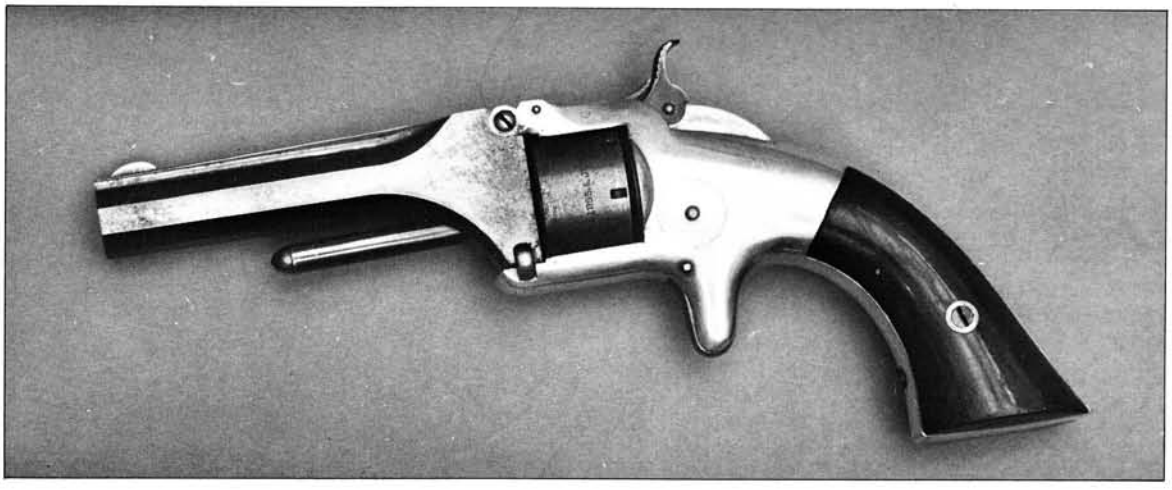
Drawing of Smith & Wesson Model 1—first issue—first variation—flat latch type (*Author*)



Cutaway drawing of Model 1—first issue—flat latch variation (*Author*)

Smith & Wesson Model 1—first issue—flat latch type (*Author*)

Below: Smith & Wesson Model 1 with spring loaded button type latch (*Author*)

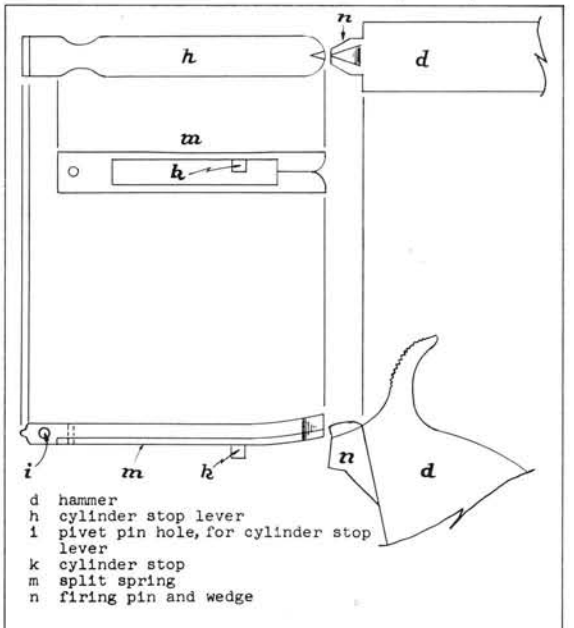


which less than 1150 were manufactured and the more common spring loaded button latch which moves vertically in the barrel housing rather than being part of the revolver frame.
The Model 1 First Issue was marked on the top of the barrel with 'Smith & Wesson Springfield Mass'. The cylinder was rolled with the patent dates covering the gun's manufacture. There are three different cylinder markings known :

1 'White'
'Patented April 3, 1855'
2 'Patent April 3, 1855'
3 'Patents April 3, 1855, June 15, 1858'

The Model 1 sold to dealers for $12·75 in 1858. The factory offered a special Gutta Percha case for the model which carried the facsimile of the gun on its cover. This case sold to dealers for $1·25 and was a popular accessory. Its manufacture was continued well into the 1860's beyond the period of the early Model 1.
The Model 1 First Issue was a difficult gun to manufacture. The small side plate and its oval shape made work on the gun tedious and seriously limited production. Therefore, the partners continued to search for a better design. This design came into being in the Spring of 1860 when the firm made a radical change in the Model 1, thus ending the production of the Model 1 First Issue.

Early style Gutta Percha Presentation Case (*Author*)



d hammer
h cylinder stop lever
i pivet pin hole, for cylinder stop lever
k cylinder stop
m split spring
n firing pin and wedge

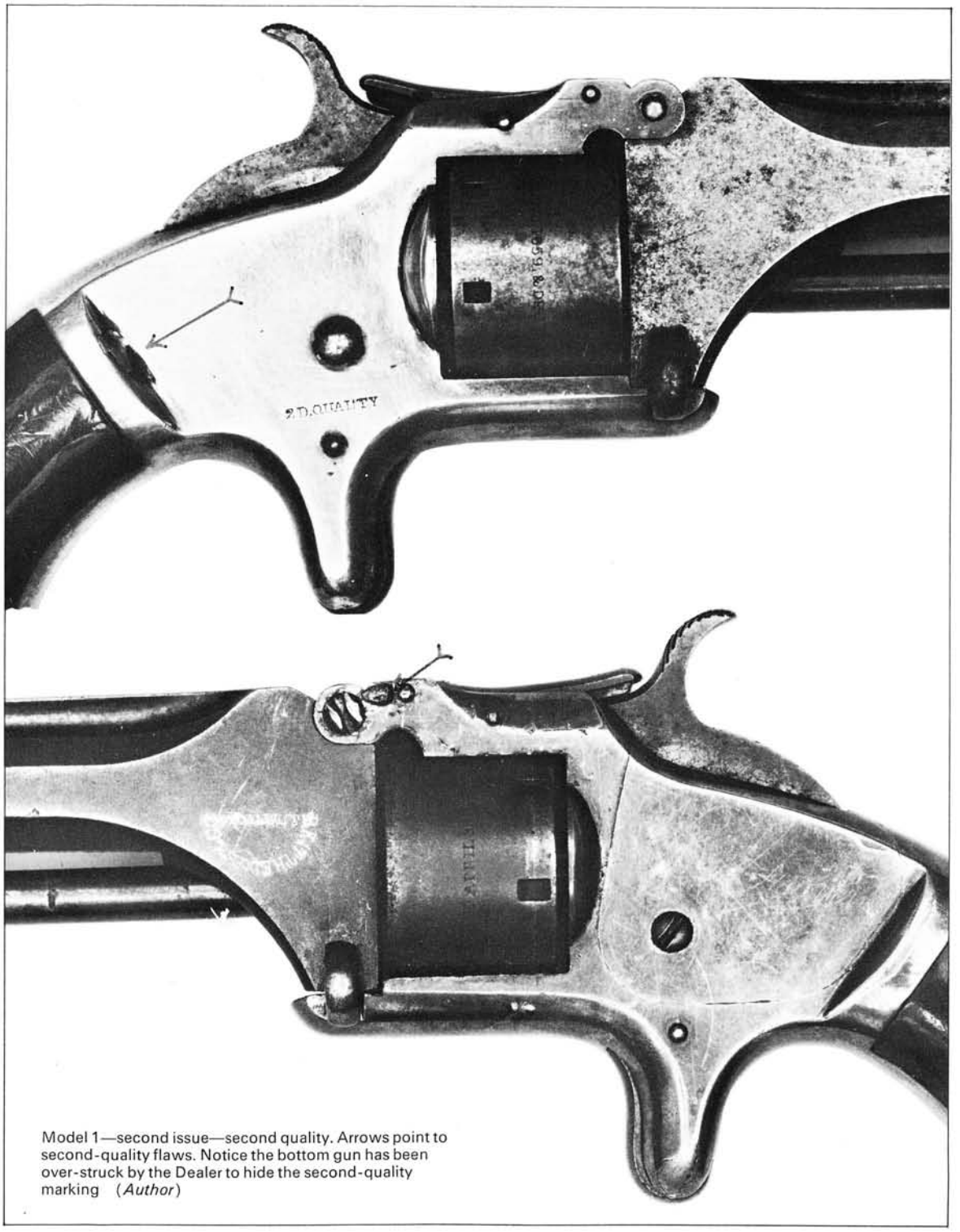
A design diagram of the new one-piece hammer and corresponding cylinder stop (*Author*)

Model 1 Second Issue

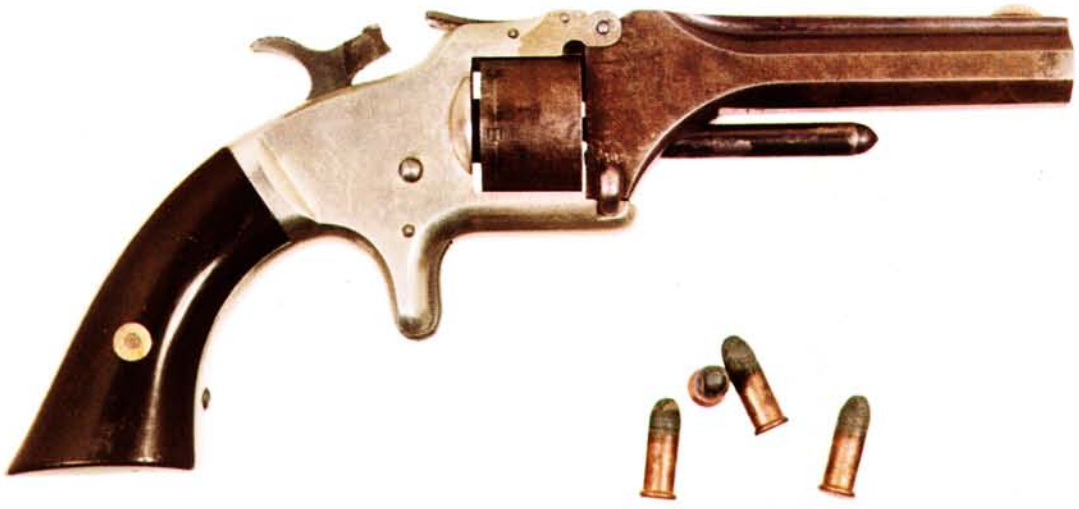
The redesign of the Model 1 corresponds to the building of a new plant. This plant allowed for greater volume production, thus helping to meet the growing demand for this small handgun. One of the major requirements of high production is to eliminate handwork and allow for easy machining and assembly. The Model 1 First Issue with its oval frame and small round side plate could not be made on a large volume basis. The frames had to be hand filed and the assemblers had to assemble the lock work through the half inch side plate hole. With these thoughts in mind, Smith and Wesson completely rebuilt the Model 1. The oval frame was discontinued in favour of a flat side brass frame which could be easily machined. The small side plate was eliminated and replaced by a large irregularly shaped plate which when removed exposed almost the entire inside of the revolver frame. This would allow for quick and easy insertion of the internal lock work. To further improve the revolver, the jointed two-piece hammer of the original Model 1 was changed to a solid one-piece

Smith & Wesson Model 1—second issue (*Author*)

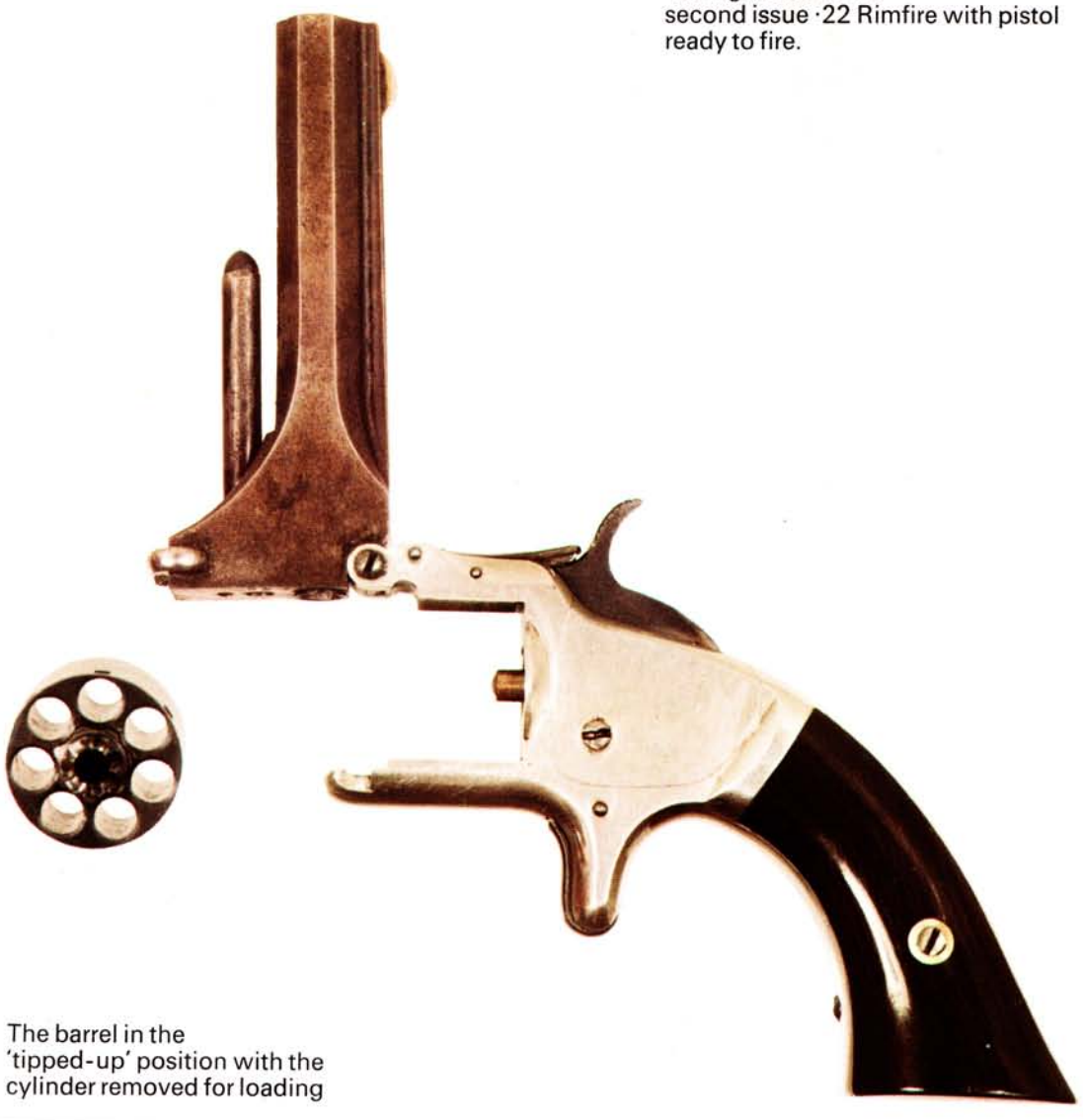
hammer. To activate the top strap style cylinder stop, the hammer incorporated a wedge-shaped projection which was located on top of the hammer nose. As the hammer was drawn to the rear, this projection was brought to bear against a split spring located on the underside of the cylinder stop. The projection simply lifted the cylinder stop from position unlocking the cylinder, allowing it to be rotated. When the revolver was fired, the hammer would drop and the sharp leading edge of the wedge-shaped projection would separate the split spring upon contact. This would allow the hammer to fall without unlocking the cylinder. Although to the company this new design of the Model 1 was simply another engineering change, collectors have completely separated it from the



Model 1—second issue—second quality. Arrows point to second-quality flaws. Notice the bottom gun has been over-struck by the Dealer to hide the second-quality marking (*Author*)



The right side of the second issue ·22 Rimfire with pistol ready to fire.



The barrel in the 'tipped-up' position with the cylinder removed for loading

Cased Smith and Wesson second issue
·22 Rimfire tip up revolver

Left side showing
irregular shape of side plate
on the second issue

All photographs courtesy of J. B. Hall © Profile Publications Ltd

earlier model and refer to it as the Model 1 Second Issue.

The production of this model began in the early Spring of 1860 and continued until 1868 with a total production of slightly more than 115,400. These revolvers are serial numbered in a continuation of the original Model 1 series ; therefore the serial range begins in the low 11,000 range and continues through 126,400. It is important to realise that these serial numbers are only approximations obtained from observed guns since no actual serial records for these models have been found. It is also known that there exists an overlap in serial numbers between the Model 1 First Issue and the Model 1 Second Issue. This overlap generally has been observed between serial numbers 10,500 and 11,500. This is easily explained since both guns were produced at the same time, the factory simply completing the old models from parts on hand as production of the new series was begun.

The Model 1 Second Issue was relatively free of variations during the eight years it was produced, although close study of this model shows some minor changes. One of the most important variations of this model is that of the second quality guns. These were revolvers which had minor defects in the brass casting or the finish of the handgun. The gun was mechanically sound with the defects detracting only from the aesthetic appearance of the gun. These second quality revolvers were stamped on the barrel flat '2nd quality' or '2nd qual' and sold to the dealers for $2·00 less than the normal price.

The two styles of Gutta Percha cases. supplied with the Model 1—second issue. *Top:* This case was the more common. *Bottom:* This case was referred to by the Factory as the 'Union' case and was available only for the Model 1—second issue (*Author*)

The demand for handguns created by the American Civil War certainly encouraged the firm to market these second quality guns rather than scrap them. A total of 4402 of the second quality guns were sold and, as ironic as it may seem, these cheaper models today are considered rare and will demand a premium by collectors.

The Model 1 Second Issue was marked similarly to that of the Model 1 First Issue. The $3\frac{3}{16}$ in barrel was stamped 'Smith & Wesson Springfield Mass', while the cylinder was marked 'Patented April 3, 1855, July 5, 1859, December 18, 1860.' The early variations of this model up to approximately serial number 20,000 will bear only the first two patent dates on the cylinder. It is an important factor to note that the second patent date of this model (July 5, 1859) is different from that of the Model 1 First Issue. This will allow the collector to immediately identify the replacement of a cylinder in either model.

This model was most commonly finished in a two-tone finish of plated frame and blued barrel and cylinder. However, fully plated guns of nickel, silver or gold could be purchased. It is interesting to note that two of these small pistols were specially manufactured using solid silver frames. Imagine the thrill of uncovering such a treasure!

The cost of the Model 1 Second Issue was $10·50 to dealers and could be purchased in the fancy Gutta Percha case of which the factory now offered two styles.

When the American Civil War ended, the United States found itself in an economic recession. The sale of handguns dropped drastically from a peak of 20,000 Model 1 Second Issues per year to less than 8000. The factory decided that it was time to modernise the Model 1 and look outside the United States for a new market. Therefore, early in 1868, plans were begun to discontinue this model in favour of a new streamlined, more modern appearing revolver.

Model 1 Third Issue 1868-1882 (New Model 1)

The New Model 1 as the factory called this modernised ·22 calibre revolver, was in reality not an improved gun, but a redesigned gun presenting a more artistic appearance for the sole purpose of stimulating sales. It is called by collectors the Model 1 Third Issue, as it has a completely new appearance. The gun was manufactured completely of wrought iron having a forged iron frame rather than one of cast brass. The gun was changed so that it had the popular and appealing bird's head style grip, fluted cylinder, and round ribbed barrel upon which was marked 'Smith & Wesson Springfield Mass Pat. Apr. 3, 1855, July 5, 1859, Dec. 18, 1860'. Despite the basic changes in the revolver's configuration, the gun mechanically remained the same. The factory did feel that this model was of such different design that it was assigned a new serial number series. Thus the Model 1 Third Issue series was renumbered beginning at serial number 1 and continuing through 131163.

The production of the Model 1 Third Issue began slowly in 1868 with only a total production of 392 revolvers in that year. However, by 1869, the yearly production had increased to over 10,000 of these ·22 calibre revolvers and by 1870 the yearly production had reached 20,000.

Smith & Wesson Model 1—third issue (*Author*)

The demand for this pocket pistol was good, particularly because for the first time, the firm had taken a close look at the handgun market outside the United States. The factory had exhibited their products at the Paris Exposition of 1869. Here they found a sincere interest in their products and signed a sales agreement with Mr J. H. Crane of London and C. W. May of Paris to handle the sale of these products in England as well as across the European continent. The factory also made other valuable contacts with representatives from Russia and the East European countries. This new emphasis on world-wide marketing helped the factory to increase

its sales throughout 1873. However, in 1872 when their exclusive patent on the bored through cylinder expired and other manufacturers jumped into the lucrative market, sales began to decrease rapidly, dropping to only 5368 handguns in 1874. Since this was the only pocket pistol being produced by Smith & Wesson at this time, the gun remained in production until 1882 when sales dropped to such a level that it was no longer economically feasible to continue production.

The Model 1 Third Issue was manufactured with no major design changes. The only variation which is recognised is that of the short-barrelled model which was introduced in 1872. The standard barrel length for this model was $3\frac{3}{16}$in. The factory had received orders for a shorter barrel model which could be more easily concealed by the more 'sporting crowd. Therefore, a revolver having a barrel length of approximately $2\frac{11}{16}$in was manufactured. On these short barrelled models, the stamping was relocated on the left side of the barrel and stamped in two lines. These models are considered rare and are very seldom seen. The Model 1 Third Issue was sold to dealers for $9·50 in 1868 and could be purchased in blue, nickel or a two-tone finish of nickeled frame and blued barrel and cylinder. Other fancy finishes such as gold and silver as well as a wide variety of engraved models were also available. The guns were generally sold in cardboard boxes which included a small brass cleaning rod. Since the fancy Gutta Percha cases were no longer available, a buyer wishing a fancier set could purchase a small wooden presentation case.

When the Model 1 Third Issue was dropped from the line in 1882, it ended an era for Smith & Wesson. It was the last of the tip-up style pistols produced which had brought the company its first fame. It also marked the discontinuation of the use of the ·22 cartridge which the factory had originated. The factory were to let this cartridge lie dormant for the next 10 years before they would again produce a pistol from which it could be fired.

If D. B. Wesson's sound judgement and reasoning did not indicate to the author that he had continued this model as a profitable item until 1882, the author would simply feel that this outdated pistol had been retained in the production line during these last years merely as a reminder to him of how the Model 1 had helped to bring him success and recognition around the world.

A Smith & Wesson Model 2 Army engraved by L. D. Nimschke (*Author*)

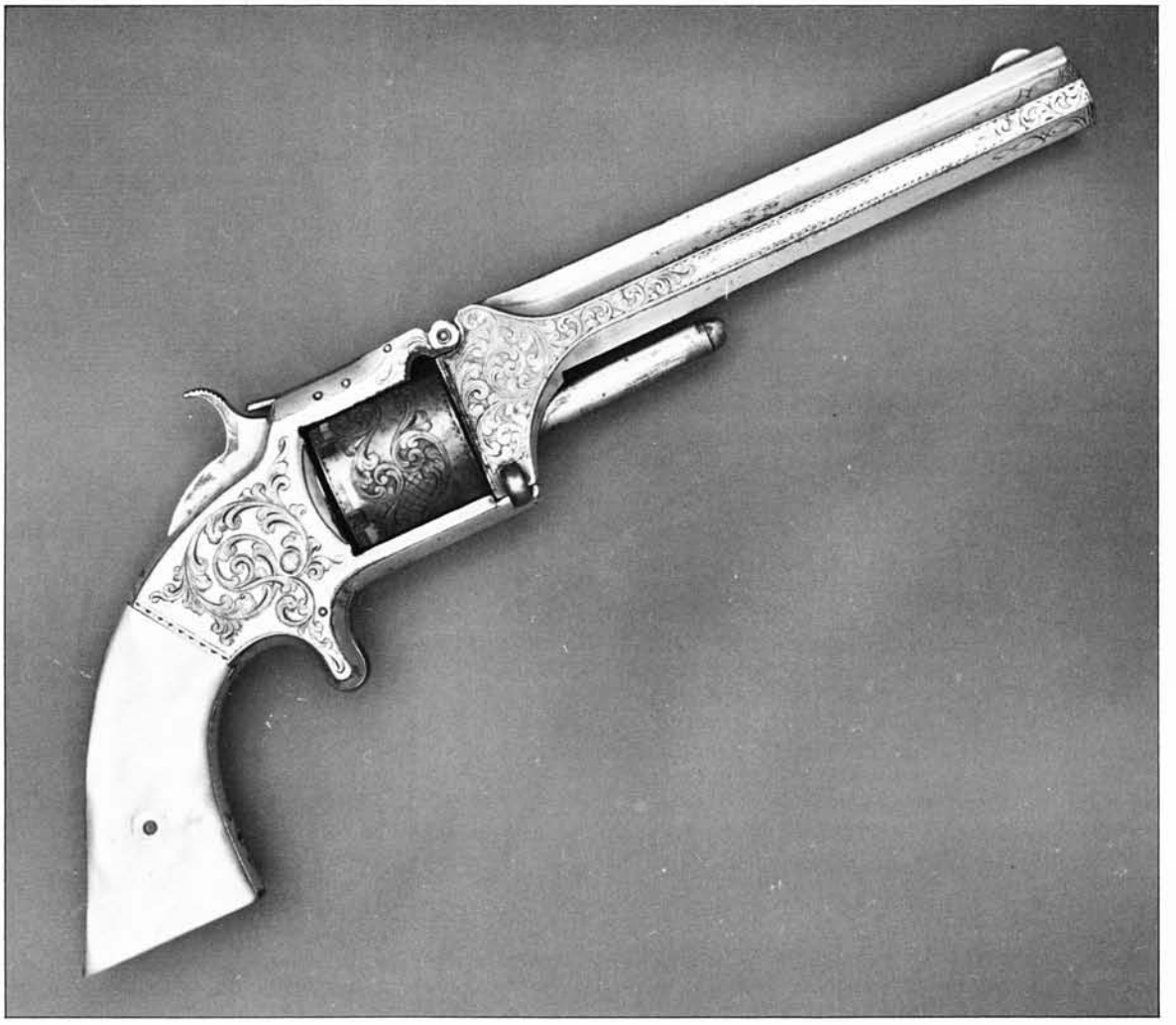
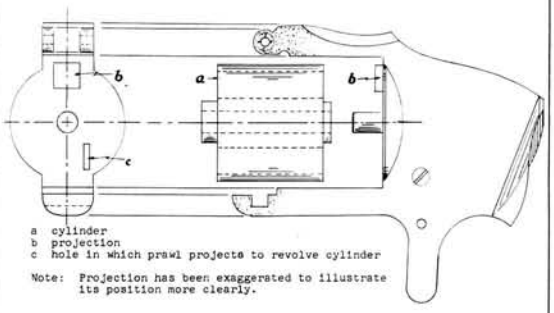


Diagram of the projection fitted to improve cylinder rotation (*Author*)

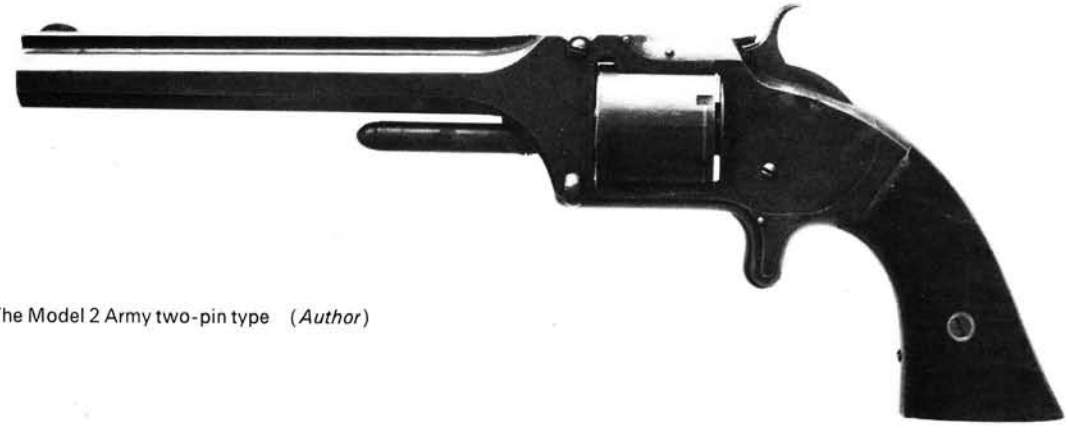


Model 2 Army 1861-1872

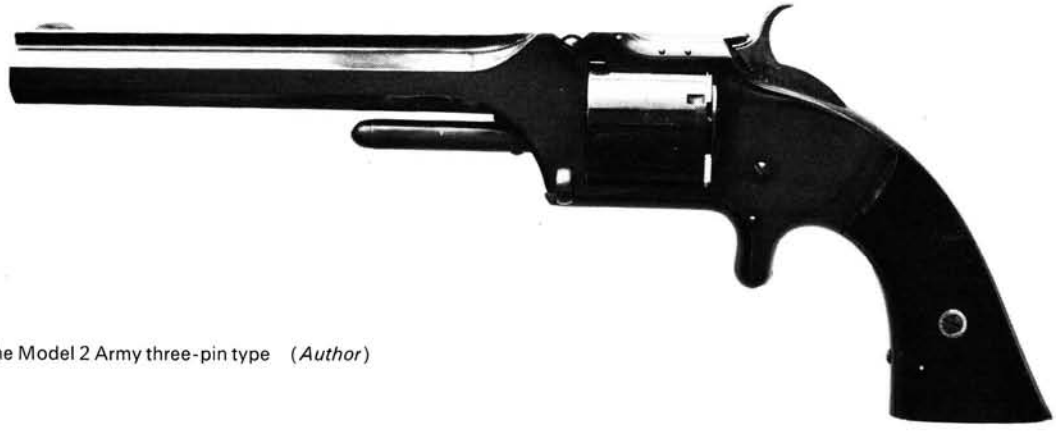
With the Model 2 Army the history of Smith & Wesson returns to its chronological order.

The company realised early in its manufacturing operation that a ·22 calibre revolver could not compete successfully with the larger calibre percussion revolvers, but the company was hesitant to begin production of larger calibre revolvers, for they had experienced difficulty in making their revolvers function with the ·22 rimfire cartridges. They found that upon discharge, the thin copper base of the cartridge would swell and jam the revolver by preventing the cylinder from rotating. Thus, to manufacture a revolver of a larger calibre would only magnify the problem. In the early ·22 Model 1 revolvers, the recoil shield rotated with the cartridges, so that the swelling base did not prevent rotation. This method was costly in manufacture and would not operate as successfully in a larger calibre revolver.

Early in 1859, Smith & Wesson resolved the problem by incorporating a projection to the frame directly behind the case to be fired. Once the cartridge had been expended, it was rotated from behind this projection to an area where the swollen rim of the cartridge had ample freedom of movement. This projection was patented on December 18, 1860. With this new improvement and other design changes, the factory planned to scale up the Model 1 to a larger ·32 calibre revolver to be called the Model 2. Production began in early 1861. This revolver was similar to the Model 1 Second Issue in design except that it was a six shot made of forged wrought iron. The gun was designed to fire the



The Model 2 Army two-pin type (*Author*)



The Model 2 Army three-pin type (*Author*)

Smith & Wesson's No 2 cartridge which is known today as the ·32 Long Rim Fire.

The timing of the introduction of the Model 2 proved important to the partners for the first guns reached the market in June of 1861, only two months after the first shots were fired which marked the beginning of the American Civil War. This was a time of dramatic turmoil like which none of the citizens had ever experienced. Fear of invasion gripped the North and Northern soldiers were searching for compact arms to carry to war. Smith & Wesson found itself in an enviable position with the exclusive patent on a cartridge revolver. The Model 2 was perfectly suited, meeting the demands of a belt size pistol which could be carried in the waistband or small holster. It could be quickly loaded with the new waterproof metallic cartridges and it proved ideal for the soldier as well as those on the home front. Smith & Wesson quickly felt the impact of the gun's popularity. Orders rose so fast that by 1862 the company was forced to close its order books because there were already orders for more arms than could be produced during the next three years.

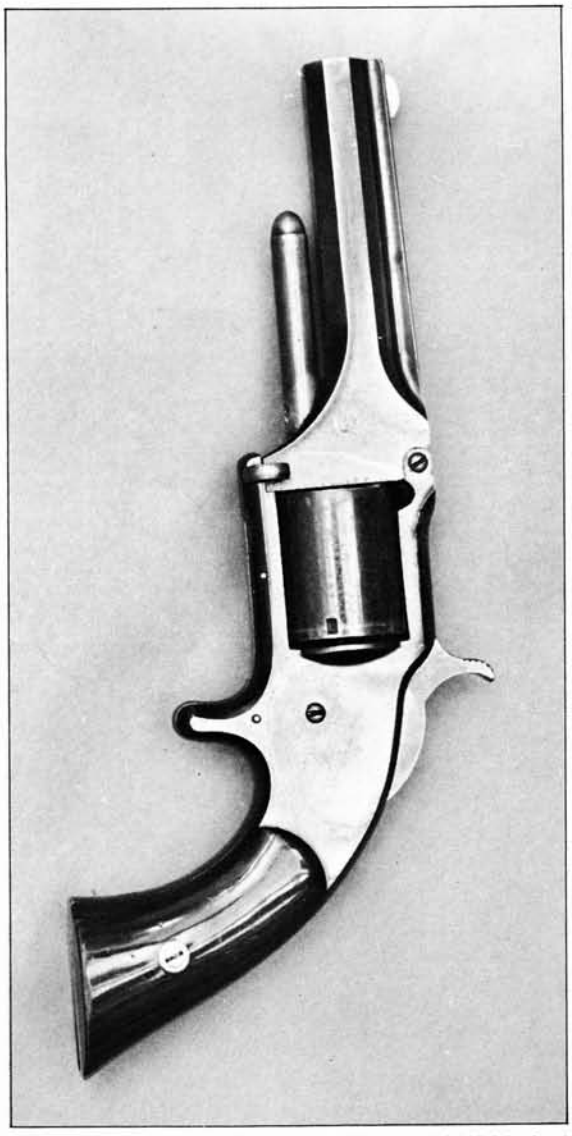
The Model 2 itself was a well-designed revolver. It was of the tip-up style and underwent few major engineering changes from the time of its introduction. Collectors recognise two major variations. The early revolvers had only two pins holding the cylinder stop in position. At approximately serial number 3000, a third pin was added to the top strap which limited the vertical movement of the cylinder stop. The reason behind the addition of the third pin has never been clearly stated ; however, it has been theorised that it was incorporated to prevent breakage of the cylinder stop, which could occur if

The four barrel lengths of the Model 2 Army. Top to Bottom 8", 6", 5", 4" *(Author)*

the stop were to catch on clothing or holster.
The Model 2 was available in 1861 in both five and six-inch barrel lengths with the factory finish being blue, nickel or a plated frame and a blued barrel and cylinder. Special finishes such as gold, silver or engraving could be ordered at premium prices. In 1864 the factory added a third barrel length to the production line, the four-inch model. The demand for this model was relatively small and the factory never produced more than the original few hundred. The rarest of all barrel lengths for this model was sold in December 1863. This revolver had an eight-inch barrel, extended length grips and target style sights. It was probably Smith & Wesson's first target pistol. While it is doubtful that the factory produced only one of these models but because of their rarity, it is believed that the total production was less than ten units.
The Model 2 enjoyed great popularity during its first ten years of production with a total of 77,020 revolvers being produced by the end of 1870. The partners retained this model in their catalogue until 1872 when it was finally discontinued. The total production was approximately 77,155. The decline of sales of the Model 2 after 1870 was directly related to the expiration of the Rollin White Patent. The Model 2 is an interesting revolver to collect for there are many minor variations. It was used by many countries and was part of many colourful historical incidents. If a collector were to separate one model of Smith & Wesson to study, the Model 2 would lend itself easily to such an end and offer a wide variety of fine guns and interesting historical episodes.

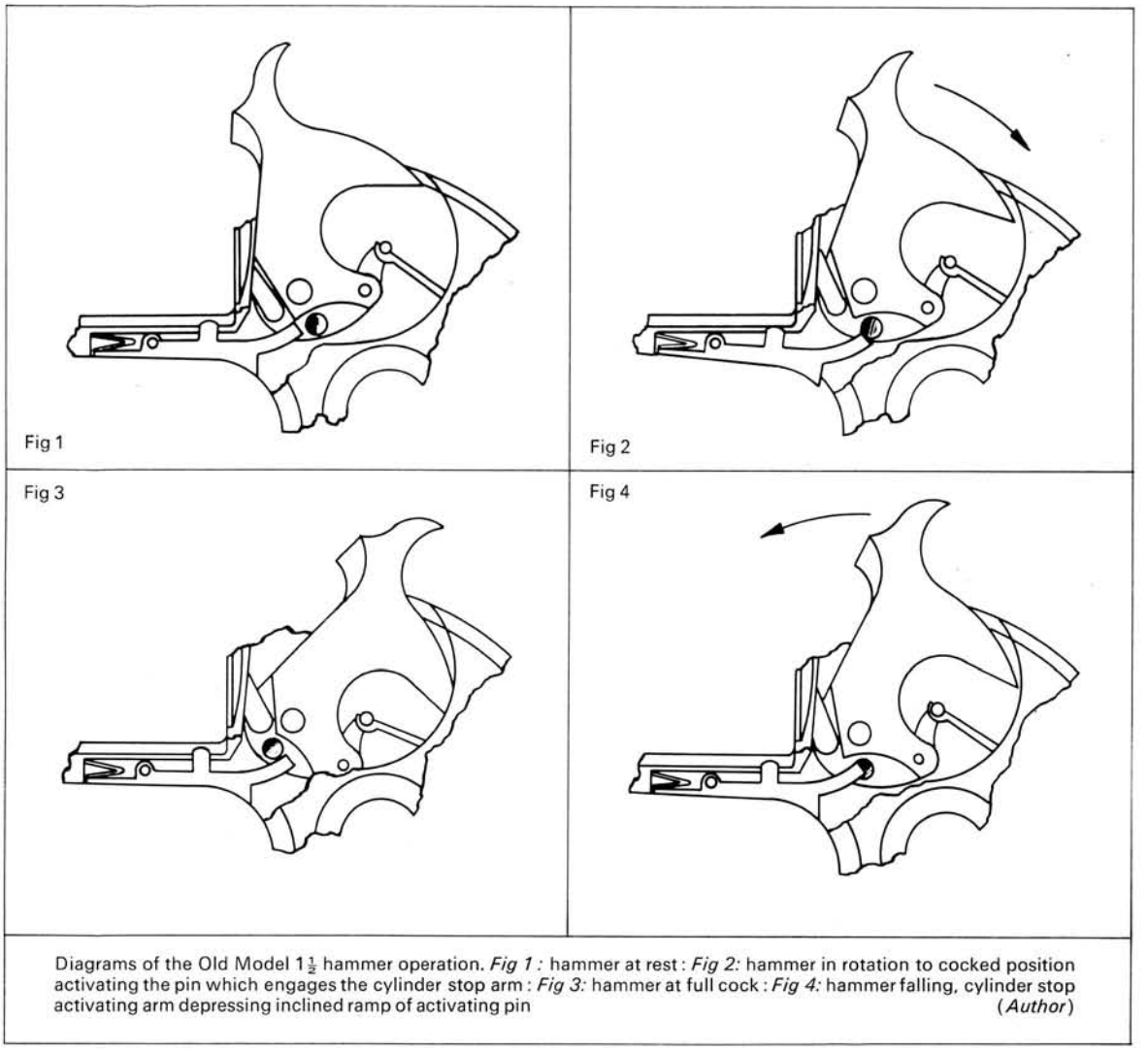
The Model 1½ Series 1865-1875

The Civil War created a large demand for handguns of all sizes and shapes. Smith & Wesson had been successfully producing the Model 1 as a pocket model and the Model 2 as a larger belt model. There was, however, great demand for a pocket model of a larger calibre than the Model 1 ·22 rim fire. The factory had designed such a revolver, but had no facilities for its manufacture. This revolver was similar in configuration but different in design to the Model 2. It was only a five shot, which allowed it to be built on a smaller frame size. The cylinder stop was relocated in the bottom of the frame directly in front of the trigger. This cylinder stop had a long lever which engaged a spring-loaded pin on the bottom side of the hammer. This pin was an inclined plane. When the hammer was drawn to the rear, the pin engaged the cylinder stop pushing down and unlocking the cylinder. As the hammer was pulled to its cocked position, the cylinder stop lever cleared the activating pin and was free to return to position. When the hammer was released, the cylinder stop lever engaged the inclined ramp of the activating pin pushing the spring-loaded pin into the hammer and preventing the cylinder stop from unlocking.
The factory called this revolver the Model 1½ and it was designed to fire a smaller ·32 calibre cartridge than the Smith & Wesson Number 2 cartridge. This cartridge was called the ·32 Rim Fire Short. However, the revolver was capable of firing the regular ·32 Rim Fire Long for those wishing the extra power of its larger powder-charge.



Smith & Wesson Model 1½—first issue (Old Model 1½) (*Author*)

Though the factory had a design for a ·32 calibre pocket pistol, they could not produce the revolver since the factory was already operating at peak production. For that reason, they negotiated with Savage and King of Middletown, Connecticut to manufacture the major parts. The parts were then forwarded to Smith & Wesson to be assembled and finished. The Model 1½ was finally completed and reached the market in the Spring of 1865 and therefore only a few could have seen any action in the Civil War.
This was the factory's first medium size revolver and the beginning of a series of ·32 calibre pocket models. Collectors refer to this model as the Model 1½ First Issue or the Old Model 1½. The gun was manufactured with a 3½ inch barrel and had a wrought iron frame which was finished in the three standard finishes—blue, nickel and the combination of blue and nickel.
The Model 1½ First Issue was produced until 1868



Diagrams of the Old Model 1½ hammer operation. *Fig 1:* hammer at rest: *Fig 2:* hammer in rotation to cocked position activating the pin which engages the cylinder stop arm: *Fig 3:* hammer at full cock: *Fig 4:* hammer falling, cylinder stop activating arm depressing inclined ramp of activating pin (*Author*)

with a total production of approximately 26,300 revolvers. In this short period, the only major variation was that of a four-inch barrel which was introduced in April 1866. Like the four-inch barrel version of the Model 2 it was not popular and thus only a few reached the market. It is estimated that the quantity sold was less than 200 revolvers.

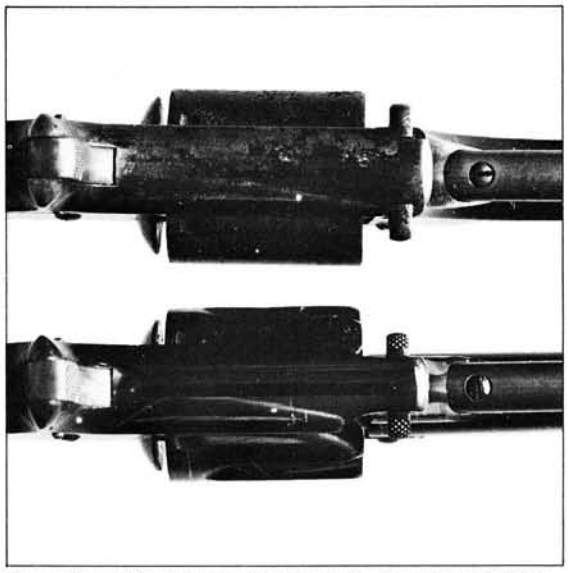
In 1868, the Model 1½ revolver also became involved in the modernisation plan to boost company sales. The design of the original Model 1½ was changed to correspond to the new look of the Model 1 Third Issue. This revolver is referred to by collectors as the Model 1½ Second Issue. The factory at this time simply referred to it as the New Model 1½, a term which is often used by collectors today. The changes to the gun were that of a round ribbed barrel, fluted cylinder, and bird's head grips. The factory also returned to the old style hammer-activated cylinder stop. It is not clear in factory history why the new style cylinder stop was dropped at this time, but evaluation of the stop shows that it was costly to manufacture and did not have as positive a lock-up as the original design. Unlike the Model 1 series, the New Model 1½ was continued in the same serial range as the original Model 1½. The serial numbers of the New Model 1½ began to appear with the number 26300. Factory production had been scaled down following the war, thus Smith and Wesson could begin production of the New Model 1½ in their own plant. After having completed approximately 1000 revolvers, Savage and King informed the partners that they had on hand 1500 of the old style barrels and cylinders which had been completed and billed to Smith & Wesson. The factory immediately instructed them to forward the parts to Springfield. Since the country was involved in a recession and sales were low, the factory could not afford to scrap these parts or hold them for long range repairs. Therefore, a special group of the new style frames were manufactured to facilitate the use of the older barrel and cylinder. These frames were of a larger width to allow the old style barrel catch to operate properly. The factory called the gun the Model 1½ Mongrel but collectors have politely classified it as the Model 1½ Transition. Yet it is not truly a transition from one model to another. It is simply an afterthought of a thrifty company which could not afford to see completed parts wasted.

The total production for the Model 1½ Transition as computed from daybook sales was approximately 650 revolvers. The records show that these guns were sold as follows :

March 27, 1869 — 50 to C. W. May for sale in Japan ;
April 19, 1869 —200 to J. W. Storrs of New York City ; and
May 17, 1869 —400 to C. W. May for sale in France.

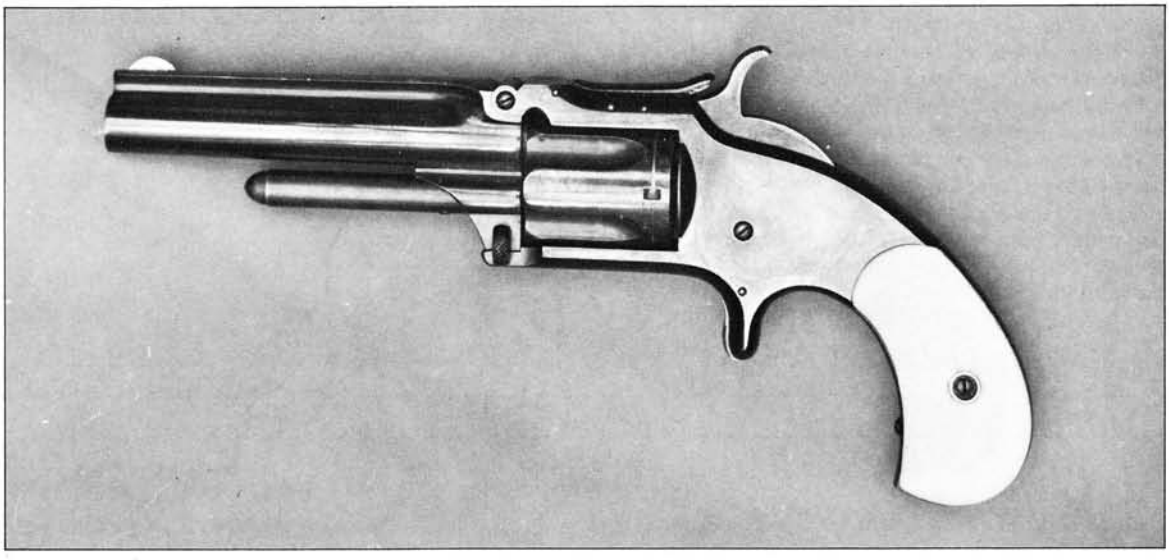
These revolvers are found in the serial range 27200-28800 and are mixed in with the New Model 1½'s within the same range.

Once the Transition Model 1½'s were completed and the production of the New Model 1½ standardised, there were no major engineering changes made through the remainder of production. The only variation which has any significance in this model is that of the short barrel. The factory produced a limited quantity of less than 1000 revolvers having a

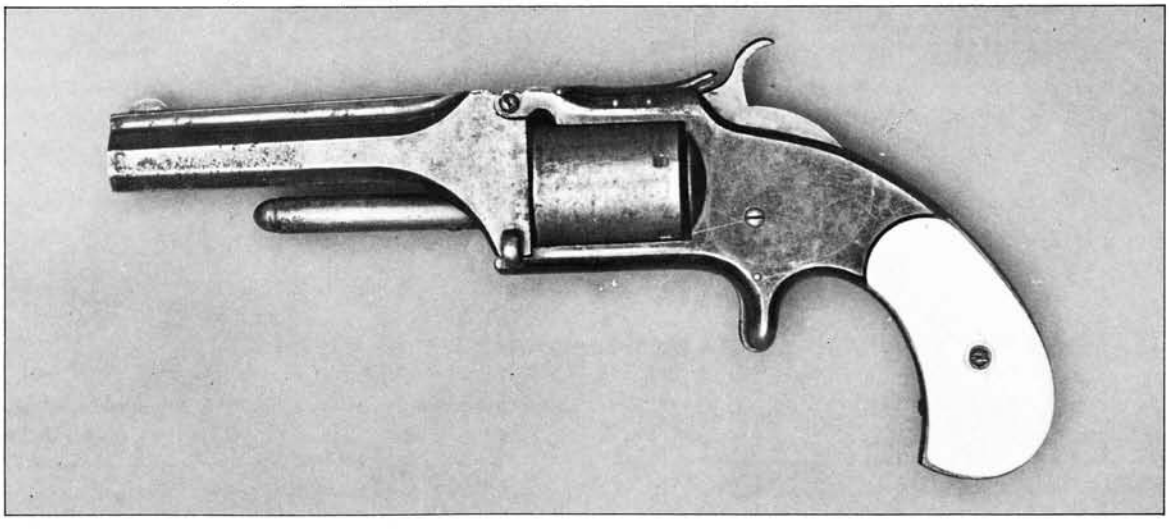


Comparison of the frames of the Model 1½. *Top:* the transition : *Bottom:* the second issue (*Author*)

Smith & Wesson Model 1½—second issue (New Model 1½) (*Author*)



Smith & Wesson Model 1½-transition (Mongrel) (*Author*)



barrel length of 2½ in. Like the short barrelled Model 1 Third Issue, the barrel stamping appears on the left side of the barrel rather than on the top of the barrel rib.

Smith & Wesson produced approximately a total of 100,800 of the New Model 1½ with the serial numbers ending at 127100 when the model was discontinued from production in 1875. During these seven years, this model was available in three standard finishes and enjoyed good popularity both in the United States and Europe. As an example of its popularity, the French Government purchased 3895 of this model in June of 1874.

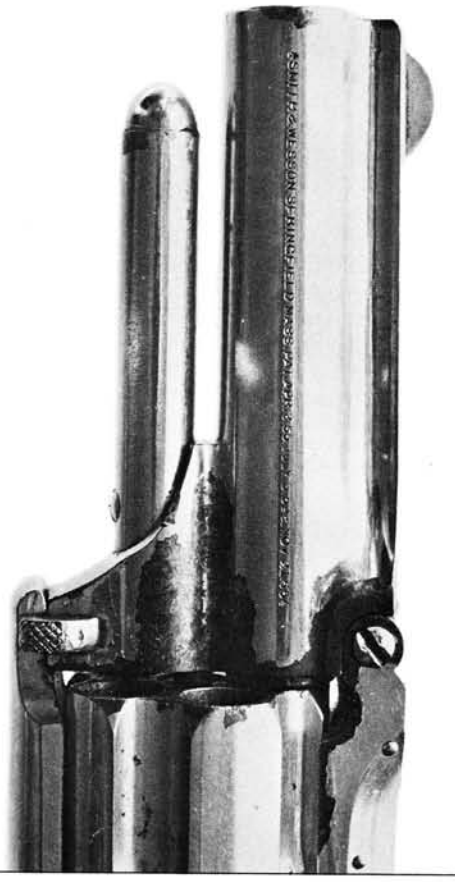
The New Model 1½ was dropped from production when the company was tooling-up to produce a new line of small top-break revolvers to help them reach again the exclusive position which they had held when the Rollin White Patent was valid.

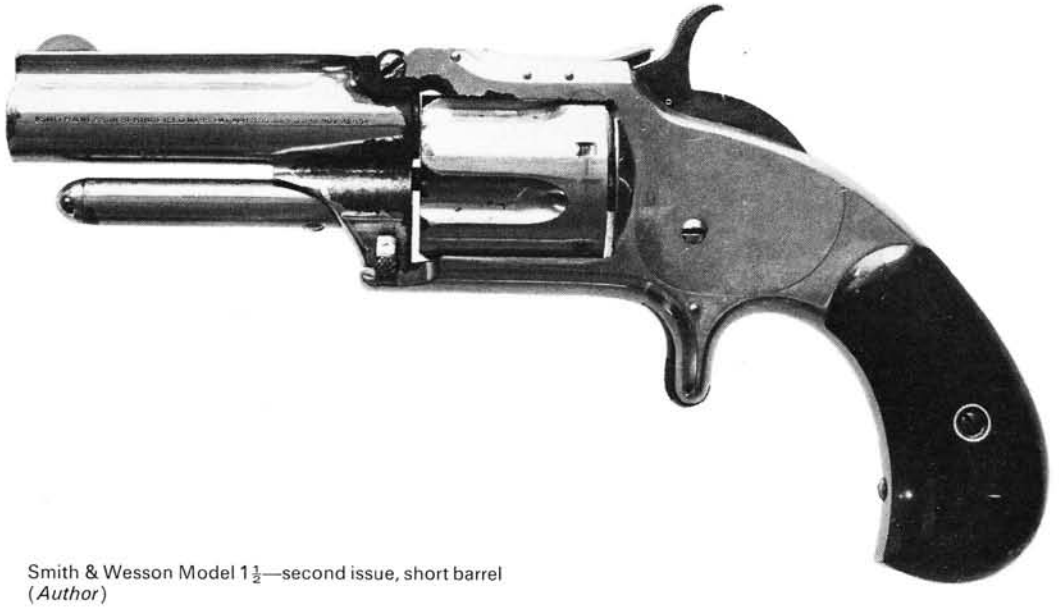
The discontinuation of the Model 1½ truly ended the era of the tip-up revolvers. The factory had designed a new top-break revolver in 1869 and had been working to incorporate this design change in all of its models. These changes took time and were the beginning of a new era and another chapter in Smith & Wesson's history.

It is worthy to make note that in all of these models there were minor variations. These variations were in the nature of an additional patent date, the reversal of a barrel marking, the changing of the knurling on the hammer, the incorporation of a knurled trigger or barrel catch. The author has dispensed from including these minor details and leave them to the collector to find—letting him feel that he has a revolver slightly different from the standard. It is these minor details which perplex the collectors and lead to discussion and exchange of information.

Small Arms Editor: A. J. R. Cormack

Barrel stamping used on short barrel Model 1½—second issue and Model 1—third issue (*Author*)





Smith & Wesson Model 1½—second issue, short barrel (*Author*)